

Perspective

“Doctor population ratio for India - The reality”

India plans to establish some 200 new medical colleges in the next 10 years to meet the projected huge shortage of 600,000 doctors. The projections are based on recommendations that have several caveats and therefore somewhat arbitrary¹. As compared to their pre-independence levels, all health parameters have shown remarkable progressive improvement even in rural India². Shortage of doctors for primary health care has been hyped. In fact, States like Maharashtra are now producing surplus MBBS doctors. The Government of Maharashtra has, therefore, decided to scrap the service bond to serve rural sector given by all students in government medical colleges³. On the other hand, India is already facing gross shortages of medical teachers⁴. The proposed massive expansion, which would reduce the medical colleges to *pathshalas* (primary schools), is ill advised. It will not solve India's woes of poor health services, but only downgrade country's standing in the medical world. More attention should now be paid to quality of medical education to facilitate establishment of hubs of excellence in medical services, education and research. Rural health services are today actually in dire need of well trained specialists and super-specialists.

The basis for arriving at this huge projected shortage is the recommendation about minimum doctor population ratio of 1:1000 made by 'High Level Expert Group (HLEG) for Universal Health Coverage' constituted by the Planning Commission⁵. The concept was originally developed by the Joint Learning Initiative (JLI)¹ and subsequently more or less adopted by the WHO⁵. The two parameters used by the JLI to arrive at the concept were magnitude of coverage of measles immunization and births conducted by skilled attendant. Both of these are low level medical skills that could be easily done by paramedics. However, the issue is more complex as there are several caveats

to the recommendations. Several nations and Indian States have achieved health indices of global standards with much lower doctor population ratio^{1,5}.

Public health scenario

In India, in the health sector the progress has been very impressive since independence - infant mortality rate (IMR) has dropped from 150 to 50 (a three-fold reduction), the maternal mortality ratio (MMR) declined 10 folds from 2000 to 200 per 100,000 live births and the life expectancy at birth has gone up from 31 to 65 yr^{6,7}. Sixty years ago the total number of physicians was 47,524, with doctor population ratio of 1 to 6300⁷. Today, the number of registered medical practitioners is 840,130 (a 17-fold increase)⁸. Despite the population explosion (population has tripled) the overall doctor population ratio is now 1:1800 which reflects a 3.5 fold improvement. Primary Health Centres (PHCs) are the cornerstone of rural health delivery system. The number of PHCs has increased from 77 in the first plan (1955) to 23,887 in 2011^{6,7}, a 300 fold increase.

Each PHC is manned by at least one allopathic doctor. As against the common perception of gross shortage, the actual shortage of basic doctors is only 12 per cent (2900) to man PHCs, that too mostly in the northern States⁶. Shortage of basic doctors is not a national phenomenon. On the brighter side, 30 per cent PHCs have two or more doctors and equal number provides 24 x 7 h services. The number of doctors at the PHCs has increased from 20308 to 26329 (addition of 1,200 doctors per year) in the period 2006-2011⁶. If the trend continues, the shortage of doctors in the PHCs could be met in the next few years within the existing system without increasing the number of medical colleges.

It cannot be denied that rural health services are far from satisfactory. But much of the ills of the rural sector

are due to poor management and rampant corruption. Not very long ago the Uttar Pradesh government was accused of fraud to the tune of ₹ 10,000 crores in India's flagship health programme, the National Rural Health Mission⁹. However, it is a fact that the doctors are reluctant to serve in villages. But this is a global phenomenon. There is no doubt that medical students should be exposed to challenges of rural health care. This could be easily done through proper implementation of the current undergraduate medical curriculum and not through coercive tactics such as extending the 5.5 year-MBBS course to 6.5 years by making one year rural service mandatory and banning doctors from settling abroad¹⁰.

In ideal situation both basic health and education needs of a citizen should be public sector programmes. But this has not been possible even in the most advanced nations such as US where the healthcare is a mix of public and private providers. In urban India, the private sector accounted for only eight per cent of health services sixty years ago. The urban health scenario only changed with the growth of the private sector, which now accounts for more than 80 per cent of urban health care⁵. Allopathic private sector is almost non-existent in villages¹¹. India now has a flourishing rural economy and a large number of villagers would want and be able to pay for quality private consultations¹². The government has to be more proactive. Rural health care should be a part of a comprehensive socio-cultural, educational, economic and health care developmental package that will be also conducive for participation of private sector and not treated as a standalone commodity requiring only more number of doctors. Indian States, which have performed poorly, also show low level of literacy, especially women literacy, poor road connectivity and high level of poverty.

Need for high skilled doctors

Though shortage of primary health providers has been hyped, India faces severe shortage of specialists both for its rural and urban services and also to strengthen its position in the medical world. Rural India today needs specialists on a priority basis. Seventy per cent posts of specialists (surgeons, physicians, paediatrics, gynaecologists, *etc.*) at the Community Health Centers (CHCs), which provide minimum specialist services to villagers, are lying vacant⁶.

India's middle class population, which can pay for sophisticated medical procedures, is around 250

million¹³. They expect nation to develop on priority basis high tech medicine such as well equipped ICU, cardiac bypass surgery, organ transplant, advanced imaging technologies (MRI, PET), prenatal diagnosis, neonatal screening, *in vitro* fertilization (IVF), *etc.* India is witnessing fast demographic changes which will soon result in deluge of lifestyle disorders (cardiovascular and neurological disorders, diabetes and cancer, *etc.*). By 2025, India may become world's diabetic capital¹⁴. Management of lifestyle disorders needs continuous long term interaction of patients with highly skilled trained doctors and not just a primary health worker.

Repeated reference is made to low position of India in the global context in IMR and MMR where India's position is 151 and 130, respectively in the world⁵. But the fact that it is also one of the most favoured destinations for medical tourism, currently estimated to be US \$ 2 billion industry, has been totally ignored¹⁵. Medical tourism, which needs highly skilled specialists and super-specialists, could be easily a \$ 5 billion-industry in the next decade. With changes in patent laws several foreign companies are coming to India for clinical trials of drugs. A strong base of physician-scientists will not only promote international collaborative research but could also make India, which is a major manufacturer of generic drugs, a site for new drug development.

The two streams: Flexner and Welch-Rose

India today faces dual challenges: (i) It must improve its health services, and (ii) simultaneously, develop high tech interventional/curative medical services both for its own people and also for its international programmes such as medical tourism and drug trials. The former needs health workers, not necessarily physicians, but the latter needs highly skilled physicians and physician-scientists. Though conventionally the term 'Health Workforce' includes both curative and preventive medicine, historically these started as two streams. The former is governed by "Flexnerian" notions which put high quality science and research at the center of medical education¹⁶. On the other hand, creation of separate schools for 'Health Sciences' has its origin in the 1915 Report of Welch-Rose¹⁷. Knowledge of medicine is an asset but not a mandatory requirement for training in public health. Only 38 per cent of the full-time MPH students at the John Hopkins are physicians¹⁸. Obviously, quality of doctors would grossly differ for the two streams. A single recommendation on doctor population ratio for

the two streams is just like putting apples and oranges in the same basket. More than 95 per cent members and consultants of HELG were health scientists⁵. More balanced comprehensive recommendations specifying requirements for individual streams would have emerged if hardcore medical scientists were present in much larger proportion in HELG especially when at the core of the debate is the issue whether India needs just more doctors or more good quality doctors.

Medical education in India

Growth of medical colleges in independent India has been very rapid. At the time of independence there were only 20 medical colleges admitting about 1500 students. Today, there are some 350 colleges admitting 45,000 students (30-fold increase in enrolment)¹⁹. This fast expansion of medical colleges has resulted in gross shortage of teachers estimated to be currently 40 per cent⁴. Private sector, which owns 190 of 350 medical colleges, is now the dominant player in medical education. Establishment of a private medical college is a huge money making business. Acceptance of the recommendation to create huge number of medical colleges in the next decade will only legitimize the unscrupulous trade of "private medical colleges".

There is a need to be innovative and urgently evolve strategies to deal with acute shortages of specialists and super-specialists especially for rural health services. In the present system of medical education it takes about 10 years to produce a specialist. One approach may be to make posting at the CHCs, which are expected to provide minimum specialist services to villagers, a part of MD/MS courses. Each postgraduate student should spend a fix time (*e.g.* six months) at a CHC in the second year of his/her training. Also the concept of a 'special paper', which is followed in science faculties in universities, may be introduced. For example, a postgraduate (MD) student could opt for a 'special paper' in Gastroenterology, Nephrology, Radiotherapy, Medical oncology, *etc.* For this purpose the student will spend fixed time in the specialty of his/her choice that is available at the host medical college or even at a private tertiary specialty institution approved by the Medical Council of India (MCI). In the process the postgraduate would be trained to perform simple procedures in the 'special paper' related discipline. This could substantially reduce burden on super-specialists. Similar programme could be developed for postgraduates (MS) in surgical disciplines. To accommodate these changes, if necessary, MD/MS course duration (residency programme), which is

currently of three year duration, may be extended by six months. Similarly, rural health service could be made a part of the super-specialty (DM) courses. There is obviously a need to appoint a task force/commission to reconsider all aspects of postgraduate medical education in India to make specialty and super-specialty services available to rural India.

Foundation of our rural health services was laid by Bhore committee⁴ about 60 years ago when acute infections dominated the health scenario. In view of the changing health scenario, it is time to review the structure of rural health services and tailor medical education to meet their needs.

The Government should desist from implementing its decision to create huge number of medical colleges. Just as no battle has been won in human history by ill trained armies, woes of the health sector cannot be solved by ill trained doctors.

Views expressed in the article are those of the author and not the the MCI.

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